

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants : Robert Falotico Confirmation No.: 7706  
Appln. No. : 10/813,965  
Filed : March 31, 2004  
Title : Solution Formulations of Sirolimus and its Analogs for CAD  
Treatment  
Art Unit : 1617  
Examiner : KIM, JENNIFER M.

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February 20, 2008  
(Date of Transmission)

Carl J. Evens  
(Name of applicant, assignee, or Registered Representative)

/Carl J. Evens/

\_\_\_\_\_  
(Signature)

February 20, 2008  
(Date of Signature)

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**AMENDMENT**

Dear Sir:

In response to the Office Action mailed October 9, 2007 Applicants respectfully request that the referenced patent application be amended as follows:

**Amendments to the Claims** are reflected in the listing of claims, which begin on page 2 of this paper.

**Remarks/Arguments** begin on page 4 of this paper.

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A liquid formulation of a therapeutic agent comprising:  
  
rapamycin in a pharmaceutically effective dosage;  
ethanol in a concentration of about 0.5 percent to less than two percent;  
vitamin E TPGS; and  
water, the liquid formulation comprising a final solution of rapamycin in the range from about 4 mg/ml to about 15 mg/ml.
2. (Cancelled) The liquid formulation according to claim 1, further comprising one or more pharmaceutically acceptable stabilizers.
3. (Cancelled) The liquid formulation according to claim 1, wherein the concentration of rapamycin in solution is in the range from about 1 mg/ml to about 15 mg/ml.
4. (Original) The liquid formulation according to claim 3, wherein the rapamycin comprises sirolimus.
5. (Original) The liquid formulation according to claim 3, wherein the rapamycin comprises CCI-779.
6. (Cancelled) The liquid formulation according to claim 2, wherein the one or more pharmaceutically acceptable stabilizer and solubility enhancers comprises polyethylene glycol.

7. (Cancelled) The liquid formulation according to claim 1, further comprising Vitamin E TPGS.

8. (Cancelled) The liquid formulation according to claim 1, further comprising water.

9. (Withdrawn) A method for the treatment of vascular disease comprising the administration of a liquid formulation of rapamycin proximate the disease site.

10. (Withdrawn) The method for the treatment of vascular disease according to claim 9, wherein the liquid formulation of rapamycin comprises rapamycin in a pharmaceutically effective dosage and one or more pharmaceutically acceptable solubility enhancers.

### **REMARKS/ARGUMENTS**

In response to the Office Action mailed October 9, 2007, Applicants amend their application and request reconsideration in view of the amendments and the following remarks. In this amendment, Claim 1 is amended, no claims have been added, claim 3 has been cancelled without prejudice, and claims 9 and 10 have been previously withdrawn so that Claims 1, 4, 5, and 9-10 are currently pending. No new matter has been introduced.

Claim 3 was objected to. Accordingly, Applicants have cancelled Claim 3 without prejudice.

Claims 1, 3 and 4 were rejected as being unpatentable over EP0041795A2 to Sehgal in view of U.S. Patent No. 5,891,845 to Myers. Claim 5 was rejected as being unpatentable over Sehgal in view of Myers and further in view of U.S. Patent No. 7,060,709 to Cooperstone et al. This rejection is respectfully traversed.

The MPEP, in section 706.02(j), sets forth the basic criteria that must be met in order to establish a *prima facie* case of obviousness:

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not based on applicant's disclosure. In re Vaeck, 947 F.2d,488,20 USPQ2d 1438 (Fed.Cir. 1991). See MPEP § 2143 - § 2143.03 for decisions pertinent to each of these criteria.

Section 2143.03 of the MPEP clarifies certain criteria in section 706.02(j).

“To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. In *re Royka*, 490F.2d 981, 180 USPQ 580 (CCPA 1074). “All words in a claim must be considered in judging the patentability of that claim against the prior art.” In *re Wilson*, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970). If an independent claim is nonobvious under 35 U.S.C. 103, then any claim depending therefrom is nonobvious. In *re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988).”

None of the references, whether taken alone or in combination disclose or suggest the invention of independent claim 1. Sehgal discloses an injectable composition of rapamycin that comprises no vitamin E and no ethanol in the final product. Specifically, Sehgal relies on non-ionic surfactants such as Cremophor (see line 24 of page 3 of Sehgal). In the claimed invention, ethanol is present in the amount of 0.5. percent up to 2.0 percent. Myers discloses vitamin E TPGS/drug compositions. It is respectfully submitted that vitamin E TPGS has been known for at least 20 years as a water soluble version of vitamin E and as an excipient for pharmaceutical applications. Myers teaches a solid solution of vitamin E TPGS and a pharmaceutical agent. This is not a liquid solution utilizing water, but rather a binary system of equal amounts of vitamin E and agent. A solid solution is blended on the molecular level and there is no use of water or co-solvents. In the present invention we utilize water and not a solid or molecular solution. Copperstone adds nothing with respect to the rejection of claim 1. Accordingly, reconsideration and withdrawal of the rejection is respectfully requested.

Applicant would be grateful for the opportunity to conduct a telephonic or in-person interview of the Examiner believes it would be helpful in disposing of the present case.

A favorable action on the merits is earnestly solicited.

Respectfully submitted,

/Carl J. Evens/

By: \_\_\_\_\_

Carl J. Evens  
Reg. No. 33,874

Johnson & Johnson  
One Johnson & Johnson Plaza  
New Brunswick, NJ 08933-7003  
(732) 524-2518  
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